<u>Claims</u>

What is claimed is:

- 1. The method of altering a fluid-borne contaminant, comprising the steps of:
- providing a pump having an inlet and an outlet;
 connecting said pump inlet to a source of contaminated fluid;
 operating said pump at a pressure ratio of at least 2.0 so as to sufficiently

elevate the temperature of the fluid and contaminants passing through said pump; and

10 controlling the time during which the temperature of said fluid and contaminants are elevated;

thereby to alter substantially all of said contaminants passing through said pump.

- The method as set forth in claim 1 wherein said contaminants are alteredby chemical reduction.
 - 3. The method as set forth in claim 1 wherein said contaminants are altered by oxidation.
 - 4. The method as set forth in claim 1 wherein said contaminants are altered by combustion.
- 20 5. The method as set forth in claim 1 wherein said contaminants include a particle.
 - 6. The method as set forth in claim 1 wherein said contaminants include a biological agent.

- 7. The method as set forth in claim 6 wherein said biological agent is selected from the group consisting of: a spore, a bacteria, a virus, a pathogen, a fungus, and a pollen.
- 8. The method as set forth in claim 1 wherein said fluid includes a compress-5 ible gas.
 - 9. The method as set forth in claim 1 wherein at least some of said contaminants are entrained in said gas.
 - 10. The method as set forth in claim 1 wherein said pump is a Roots-type positive displacement pump.
- 10 11. The method as set forth in claim 1 wherein said pump is a compressor.
 - 12. The method as set forth in claim 1 wherein said pump includes a pistonand-cylinder.
 - 13. The method as set forth in claim 1 wherein said pressure ratio is the pressure at said pump outlet divided by the pressure at said pump inlet.
- 15 14. The method as set forth in claim 1 wherein said time is controlled by restricting the flow of fluid and contaminants passing through said pump.
 - 15. The method as set forth in claim 1 wherein the temperature of said fluid and contaminants is heated to at least about 200°C at said pump outlet.
- 16. The method as set forth in claim 1 wherein said pump is a first pump, and20 further comprising the additional steps of:

providing a second pump; and

causing contaminated fluid from said source to pass sequentially through said pumps.

- 17. The method as set forth in claim 1, and further comprising the additional step of:
- 5 preheating the temperature of the fluid entering said pump with heat provided from the temperature of fluid exiting said pump.
 - 18. The method as set forth in claim 1 wherein a fuel is entrained in the fluid supplied to said pump.
- 19. The method as set forth in claim 1 wherein a reagent is entrained in the fluid supplied to said pump.
 - 20. The method as set forth in claim 1, and further comprising the additional steps of:

sampling the fluid exiting said pump to determine the extent to which contaminants therein have been converted; and

- adjusting the operation of said pump so that substantially all of said contaminants are converted by passing such contaminated fluid through said pump.
 - 21. The method of altering a fluid-borne contaminant, comprising the steps of:
- 20 providing a pump having an inlet and an outlet;

 connecting said pump inlet to a source of contaminated fluid;

 operating said pump so as to elevate the temperature of the fluid and contaminants passing through said pump to at least about 200°C; and

controlling the time during which the temperature of said fluid and contaminants are elevated; thereby to alter substantially all of said contaminants passing through said pump.